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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,280	03/03/2004	Xiaoming Tao	P69560US0	8929

136 7590 03/17/2006

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EXAMINER

SIMONE, CATHERINE A

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/791,280	TAO ET AL.	
	Examiner	Art Unit	
	Catherine Simone	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 7-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>5/26/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 7-17 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 3/3/06.

Applicant's election without traverse of Group I, claims 1-6, in the reply filed on 3/3/06 is acknowledged.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character not mentioned in the description: 321 in Fig. 3B.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al. (US 5,972,477).

Kim et al. discloses a three-dimensional textile composite structure with energy-absorbing capacities under multiple impacts comprising a base (Fig. 1, element 2), and at least one progressively collapsible projection (Fig. 1, element 3) extending from the base for absorbing energies under the multiple impacts, wherein the projection includes a non-woven textile material supported in a thermoplastic matrix material (see col. 5, lines 31-34 and col. 6, line 48) such that the projection is capable of retaining energy-absorption capacity at least after the first impact of the multiple impacts. Regarding claim 2, the projection has a grid-domed shape (Fig. 1, element 3). Regarding claim 5, the thermoplastic matrix material has a melting temperature lower than the non-woven material (see col. 1, lines 8-11 and col. 5, line 34). Regarding claim 6, the non-woven textile material is impregnated with the thermoplastic matrix material (see col. 1, lines 8-11). It is to be noted that the limitations “laminating a layer of the thermoplastic matrix material with a layer of the non-woven textile material” and “heating the laminate to a processing temperature higher than the melting temperature of the thermoplastic matrix material but lower than the melting temperature of the non-woven textile material” and “applying pressure to the heated laminate for impregnating the non-woven textile material with

the melted thermoplastic matrix material” in claim 6 are methods of production and therefore do not determine the patentability of the product itself. Process limitations are given little or no patentable weight. The method of forming the product is not germane to the issue of patentability of the product itself. MPEP 2113.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US 5,972,477) in view of Brock et al. (US 3,788,936).

Kim et al. discloses the three-dimensional textile composite structure as shown above. However, Kim et al. fails to disclose the non-woven textile material being made from staple fibers with a random orientation and the staple fibers having a low level of anisotropy in mechanical properties. Brock et al. teaches that it is old and well known in the art to have a non-woven textile material being made from staple fibers with a random orientation and having a low level of anisotropy in mechanical properties (see col. 1, line 70 and col. 4, lines 69-70) for the purpose of providing desirable energy absorbing characteristics. Therefore, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to have modified the non-woven textile material of the three-dimensional textile composite structure in Kim et al. to be made from staple fibers with a random orientation and having a low level of

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anisotropy in mechanical properties as suggested by Brock et al. in order to provide desirable energy absorbing characteristics.

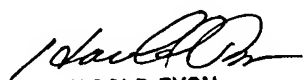
Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Catherine Simone whose telephone number is (571)272-1501. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on (571) 272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Catherine A. Simone
Examiner
Art Unit 1772
March 14, 2006


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

3/15/06